Linux
Troubleshooting

3 days

Chapter 1

Troubleshooting Methodology

Evaluating Possible Solutions
Identifying and Implementing Changes
Define and Follow Policies

Chapter 2

TOOLS

Common Troubleshooting Tools
RPM Quires
RPM Verification
strace and ltrace
lsof and fuser
ipcs and ipcrm
iostat, mpstat and vmstat
sar and top
ifconfig and ip
arp and route
Name Resolution
netstat and rpcinfo
nmap
Netcat
tcpdump and ethereal

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Chapter 3

Boot, Process, Filesystem and Threads

Linux Boot Process
Booting Linux
Boot Process Troubleshooting
- -troubleshooting GRUB problems
- -troubleshooting kernel problems
- -/etc/fstab
- -/etc/inittab problems

Process Management
Process Management Troubleshooting
- -Process consumes excessive memory
- -Process consumes excessive CPU resources

-Process consumes excessive disk space
Threads Management
Filesystem Concepts
Filesystems Troubleshooting
-Filled filesystem
-Exhausted inodes
-File permissions
-Filesystem corruption

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Chapter 4

Network, xinetd, TCP Wrappers, Netfilter/iptables

Networking Tools
Networking Commands Review
Networking Troubleshooting
-Kernel module problems
-DHCP client problems
-DNS issues
-address and mask
-gateway issues
Virtual Interfaces/IP Aliases
xinetd Concepts
xinetd Troubleshooting
-configuration file errors
-service ports may already be in use
TCP Wrappers Concepts
-/etc/hosts.allow
-/etc/hosts.deny
-libwrap.so
TCP Wrappers Troubleshooting
-file persing order/rule syntax
-incorrect daemon name
-xinetd conflicts
Netfilter/iptables Concepts
Netfilter/iptables Troubleshooting
-identifying bad rules
-chain policy

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Chapter 5

Kernel and LVM

Kernel Modules
-lsmod
-modinfo
-modprobe

Kernel Modules Troubleshooting
-incorrect kernel parameters and alias
-modules not installed
-modules dependency database not updated
Different kernels
Logical Volume Management
Creating Logical Volumes
LVM Deployment Issues
LVM Troubleshooting
-pvscan
-vgscan, vgexport,vgimport
-vgmknodes
-vgcfgbackup/vgcfgrestore

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Chapter 6
Linux Processes: Hangs and Core Dumps

Process Structure and Life Cycle
Linux Threads
Identifying Process Hangs

Process Cores